



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/484,171 06/07/95 LIRETTE

CSM1/0318

GUY MCCLUNG  
NO 347  
16690 CHAMPION FOREST DRIVE  
SPRING TX 77379-7023

B WEA-173	
EXAMINER	
TSAY, F	
ART UNIT	PAPER NUMBER

3506

DATE MAILED:

03/18/96

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.      | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.                  |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____  |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 1-20 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-20 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☒ This application has been filed with Informal drawings under 37 C.F.R. 1.95 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

**EXAMINER'S ACTION**

**Part III DETAILED ACTION**

***Specification***

1. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

As best understood, applicant suggests a centralizer apparatus which has a body comprising a tubular member of a casing or tubing string, with a longitudinal bore therethrough along its length; one or more circumferential grooves are milled in the exterior surface of the body so that the collars at both ends of the spring bows are longitudinally movable in the corresponding grooves; more specifically, as best seen in Figure 2, grooves 18 and 22 are formed apparently at the expense of reducing the tubing or casing wall thickness. In this regard, applicant has apparently failed to consider that casings or tubings are normally of relatively thin wall tubular goods, which usually ranges from 0.2 to 0.5 inch in thickness and hence any regional reduction in wall thickness could drastically reduce the collapse resistance of the casing or tubing string. To prove

this point, one only have to look at an example of a 5"-24.10-L80 casing, which has a collapse resistance of 14,400 psi, a reduction of wall thickness from 0.5" to 0.296 or approximately 0.2" for instance, will reduce its collapse resistance to 7,250 psi or a reduction of about 50 percent in collapse resistance. Other similar damages to the casing with smaller wall thickness reductions are obvious by the data shown in the same table. (see Table 7.6, p321, Applied Drilling Engineering, incorporated herewith by reference). Similar damage to the collapse resistance could also occur in a tubing string (see Table 14.11, page 304, Petroleum Engineering, incorporated herewith by reference). In this regard, it the examiner's opinion that the idea of creating circumferential grooves or recesses for movably receiving the centralizer collars and the spring bows could cause the failure of a casing string during well completion or cementing, and hence is of unsound engineering practice.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. § 101 reads as follows:

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title".

Claims 1-20 are rejected under 35 U.S.C. § 101 because the invention as disclosed is inoperative and therefore lacks utility.

***Claim Rejections - 35 USC § 112***

3. Claims 3, 4, 7, 8, 13, 15, 17 and 18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, lines 4 and 5, the recitation relative to the structural relationship between the first ends and the second collar is confusing; since from claim 1, the first ends are defined as being connected to the tubular body.

Claim 15, lines 19-21, the recitation relative to the structural relationship between the first ends and the second collar is confusing; since from lines 7 and 8, the first ends are defined as being connected to the tubular body.

Claim 17, line 3, "another member" is indefinite and lacks structure distinction.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 9-12, 14, 16, 17, 19, and 20 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Clark, Jr. '844.

Clark, Jr. '844 discloses a casing centralizer shown in Figs. 1-3, which comprises all of the claimed structure including

a tubular body or sleeve 15, longitudinally spaced upper and lower collars 10, 11 which a plurality of circumferentially spaced outwardly bowed springs 12 are attached. The upper collar 10 is mounted upon and secured on the sleeve 15, the lower collar 11 is slidable along the exterior of the sleeve 15 upon contraction of the bowed springs 12 when engaging the wellbore (col. 2, lines 7 - 29). The retainer means is clearly anticipated by Fig. 4 wherein the bowed springs are secured in the slots between the sleeve 15 and the collar 11.

6. Claims 1, 3, and 13 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Clay '907 or Comstock '824 for the same reasons and both upper and lower collars are slidable.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

8. Claims 2, 4-8, 15 and 18 are rejected under 35 U.S.C. § 103 as being unpatentable over Clark, Jr. '844 and Clay '907 or Comstock '824 as applied to claims 1, 3, 9-14, 16, 17, 19 and 20 above, and further in view of Solum et al '884. Clark, Jr. and Clay '907 or Comstock '824 all show a Centralizer which comprises all of the claimed structure with the exception of the first and the second groove as well as the spring bow recess for limiting the movement of the collars as well as receiving a portion of each spring bow. In this regard Solum et al discloses a centralizer for use in centering a well pipe or casing that is adapted to pass through wellbore or well casings of sizes very close to the size of well pipe, which comprises all of the claimed structure including a bowed spring centralizer unit shown in Figs. 1-3, and a pair of stop collars 17, 18 respectively connected to centralizer end collars 11 and 12 by interconnecting means 20. The interconnecting means 20 permit a limited amount of relative axial movement between the collar 11 and stop collar 17 and between collar 12 and the stop collar 18 (col. 3, lines 6-42). It would have been a matter of design option to have modified Solum et al stop collars means 17 and 18 by creating circumferential grooves 18, and 20 on the tubular body shown in Figs. 2 and 12 of the instant invention so as to provide limited axial movement of the upper and/or lower sliding collars, since it has been held that a limitation of the claimed combination which present no novel or unexpected result over a similar

feature used in the prior art references, and solved no stated problem, was merely an obvious matter of design choice within the skill of the art. [ In re Kuhle, 526 F2d 523; 188 USPQ 7 (CCPA 1975). In re Gazda, 42 CCPA 770; 219 F2d 449; 104 USPQ 400 (1955)].

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

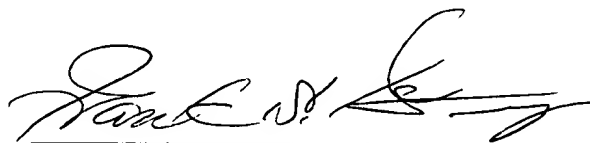
Granger, Althouse, Jr., Baker et al, Clark, Jr., et al, Roesner, Callihan et al and Wilson et al all show centralizers.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Frank S. Tsay whose telephone number is (703) 308-2170. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 4:00 P.M. E.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ramon S. Britts, can be reached on (703) 308-2144. The fax phone number for this Group is (703)305-3297 or (703)305-3298.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)308-2168.

Tsay/FT  
March 13, 1996



**FRANK S. TSAY  
PRIMARY EXAMINER  
GROUP 3500**